REMARKS/ARGUMENTS

Examiner:

Claims 1 through 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As best can be understood in view of the indefiniteness of the claims, claims 1 through 5 and 8 through 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Pollard 11, previously of record. As best can be understood in light of the indefiniteness of the claims, claims 6, 7, and 14 through 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pollard 11 in view of Endo.

Response:

As required by the Examiner, appropriate claims have been amended to clarify terms such as "plurality of types" and "differing temperatures", and relative terms such as "approximately" and "reasonable" have been removed from the claims. No new material has been introduced. It is believed that the amended claims fully comply with 35 U.S.C. 112, second paragraph and reconsideration of all claims under this rejection is respectfully requested.

Claims 10-13 have been cancelled without any disclaimer of any kind regarding their respective merits as filed.

It is agreed that Pollard discloses possibly including metal fibers or other materials to "increase thermal conductivity of the two-phase material" (Col.2, lines 37-41). However, Pollard 11 describes the phase change material as "a material that can absorb additional heat" "in an isothermic or nearly isothermic process" "without appreciably increasing the temperature of the assembly" (Col.2, lines 26-31). In other words, the metal fibers are utilized as thermal conductors to "increase thermal conductivity of the two-phase material", not as a phase change material that "absorbs" additional heat in an isothermic or nearly isothermic process without appreciably increasing the temperature

of the assembly. Thus, the metal fibers and the phase change material have distinctly defined and distinctly different functions within the cited apparatus. One of these different function, that of thermal conductivity, cannot be changed to the other, that of thermal absorption, without changing an operational principle of the device, and is therefore not obvious.

Moreover, it is clear from Fig.2 and Paragraphs [0018] and [0020] of the present application that excess heat is stored by phase change of the phase change material at less than the amount of heat than what would damage the electrical components. The Applicant considers is very unlikely that metallic fibers will change phase at a temperature corresponding to less heat than the amount of heat that would damage the electrical components. However, the Applicant has chosen to amend claims 1, 14, and 16 to include the limitation that the phase change material changes phase at a temperature lower than what would damage the heat generating electrical component. No new material has been introduced. The Applicant is unable to find any teachings or suggestions in the disclosure of Pollard 11 for this limitation.

Additionally, Pollard II. in Col.2, lines 34-35 states that the "two-phase material 32 may be a paraffin that is enclosed by a housing 34". When viewing the referred to Fig.1, it is clear that the housing 34 does not extend between and separate the two-phase material 32 from the heat sink 26. Unstated in the disclosure but appearing quite reasonable to one skilled in the art when viewing Fig.1, is that the paraffin is sealed between the heat sink 26 and the housing 34. There is no suggestion found in the disclosure otherwise. In fact, sealing it in this manner would not only prevent melted paraffin 32 from leaking out of the heat storage rendering the device unfit for its intended purpose once the paraffin 32 is no longer within the housing 34, but also would provide additional transfer of heat from the heat sink 26 directly into the paraffin 32, removing some of the burden from the heart pipe 24.

However, Fig.3 and Fig.4 of the present invention clearly indicate that the thermal module 30 is not in direct physical contact with the heat sink 40. This separation of components is not merely a design choice, but offers real world

differences in functionality. By locating the thermal module away from the heat sink, more surface area of the heat sink is exposed, providing greater radiating abilities. This is important if attempting to reduce the size of the heat sink, as is the present invention (Paragraph [0008]). Additionally, placement of the thermal module is not restricted to the vicinity of the heat sink and electrical component, providing greater flexibility in system design by allowing the thermal module to be located in "small areas between the electrical components, occupying no more than what is normally wasted space" (Paragraph [0010], anywhere within the computer. Therefore the Applicant has chosen to amend claim 15 and introduce new claim 19 comprising this unanticipated limitation of physical separation of the heat sink and the thermal module. No new material has been introduced.

Claims have been amended to overcome any and all cited objections by the Examiner and are believed by the Applicant to represent a new and useful device not taught nor made obvious by known prior art. Therefore, the Applicant respectfully requests reconsideration and allowance of claims 1-9 and 14-17 and consideration and allowance of new claims 18-19.

Respectfully submitted,

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Note: Please leave a message in my voice mail if you need to talk to me. The time in D.C. is 13 hours behind the Taiwan time, i.e. 9 AM in D.C. = 10 PM in Taiwan).